

Appendix N OFF-SITE CONSEQUENCE ANALYSIS FOR LFG TO LNG (ALTERNATIVE 3)



Text Summary

ALOHA® 5.4.7



SITE DATA:

Location: LOS ANGELES, CALIFORNIA
Building Air Exchanges Per Hour: 0.57 (unsheltered single storied)
Time: December 4, 2019 1137 hours PST (using computer's clock)

CHEMICAL DATA:

Chemical Name: METHANE
CAS Number: 74-82-8 Molecular Weight: 16.04 g/mol
PAC-1: 65000 ppm PAC-2: 230000 ppm PAC-3: 400000 ppm
LEL: 50000 ppm UEL: 150000 ppm
Ambient Boiling Point: -258.9° F
Vapor Pressure at Ambient Temperature: greater than 1 atm
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 1.5 meters/second from W at 3 meters
Ground Roughness: 10.59 inches Cloud Cover: 5 tenths
Air Temperature: 109.2° F
Stability Class: F (user override)
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:

Direct Source: 70000 gallons Source Height: 0
Source State: Liquid
Source Temperature: -260° F
Release Duration: 1 minute
Release Rate: 4,120 pounds/sec
Total Amount Released: 247,456 pounds
Note: This chemical may flash boil and/or result in two phase flow.
Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:

Threat Modeled: Flammable Area of Vapor Cloud
Model Run: Gaussian
Red : 1.2 miles --- (30000 ppm = 60% LEL = Flame Pockets)
Yellow: 2.5 miles --- (5000 ppm = 10% LEL)

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THREAT ZONE:

Threat Modeled: Overpressure (blast force) from vapor cloud explosion
Type of Ignition: ignited by spark or flame
Level of Congestion: congested
Model Run: Gaussian
Red : LOC was never exceeded --- (8.0 psi = destruction of buildings)
Orange: LOC was never exceeded --- (3.5 psi = serious injury likely)
Yellow: 1.0 miles --- (1.0 psi = shatters glass)

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THREAT ZONE:

Model Run: Gaussian
Red : 604 yards --- (400000 ppm = PAC-3)
Orange: 746 yards --- (230000 ppm = PAC-2)
Yellow: 1212 yards --- (65000 ppm = PAC-1)

